F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
49	(3M)TS	IROQUOIS	--	--
STA. ---+--		TO STA. ---+--		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION (J.U.L.I.E. 800/892-0123).
2. ALL TRAFFIC SIGNAL HEADS SHALL BE 12", UNLESS OTHERWISE NOTED.
3. ALL SIGNAL BASES SHALL BE LOCATED AT 6 FOOT MINIMUM CLEARANCE FROM CURB UNLESS OTHERWISE DIRECTED BY ENGINEER.
4. ALL CONDUIT IN TRENCH SHALL BE P.V.C. ALL CONDUIT PUSHED MAY BE GALVANIZED STEEL OR P.V.C. CONDUIT ATTACHED TO STRUCTURES SHALL BE GALVANIZED STEEL. CONDUIT PUSHED UNDER THE RAILROAD TRACKS SHALL BE AT A MINIMUM DEPTH OF 4 FEET BELOW THE RAILROAD BED INCIDENTAL TO THE PAY ITEM.
5. A 1/4" DIAMETER CONTINUOUS NYLON ROPE SHALL BE FURNISHED AND LEFT IN PLACE IN ALL CONDUITS BETWEEN HANDHOLES AND FOUNDATIONS OR CONTROLLER AS INCIDENTAL TO THE RESPECTIVE CONDUIT PAY ITEM.
6. THE PROPOSED TRAFFIC SIGNAL CONTROL CABINET SHALL BE FURNISHED WITH A MANUAL CONTROL SWITCH AND MANUAL CONTROL CORD WITHIN THE POLICE DOOR COMPARTMENT AS INCIDENTAL TO THE CONTROL CABINET PAY ITEM.
7. THE CONTRACTOR SHALL ARRANGE FOR A FACTORY OR SUPPLIER REPRESENTATIVE TO BE PRESENT AT THE INTERSECTION WHEN THE SIGNAL IS TURNED ON, INCIDENTAL TO THE CONTROLLER PAY ITEM.
8. THE CITY OF WATSEKA (815-432-2711) AND THE DEPARTMENT OF THE DEPARTMENT OF TRANSPORTATION (815-434-6131) SHALL BE NOTIFIED AT LEAST 72 HOURS PRIOR TO THE TURNING ON OF THE CONTROLLER UNIT.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ELECTRICAL SERVICE FOR THE TRAFFIC SIGNAL AND STREET LIGHTING. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANY PRIOR TO BEGINNING WORK TO OBTAIN THE UTILITY COMPANY REQUIREMENTS FOR THE SERVICE INSTALLATION.
10. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR PLACING CONDUIT AT GREATER THAN 2 FEET MINIMUM DEPTH TO AVOID OBSTACLES SUCH AS UNDERGROUND UTILITIES.
11. THE DOUBLE HANDHOLE SHALL HAVE 12 FEET OF SLACK IN EACH CABLE, NEATLY WOUND ON THE HOOKS. THE CABLE SHALL BE PAID FOR AT ITS INDIVIDUAL UNIT PRICE.
12. ALL MAST ARM MOUNTED SIGNAL HEADS ON AN INDIVIDUAL MAST ARM SHALL BE MOUNTED SO THAT THE "RED" INDICATIONS ARE LEVEL WITH EACH OTHER.
13. THE ELECTRICAL CONDUCTORS FOR ALL TRAFFIC SIGNAL HEADS SHALL BE SOLID, SOFT COPPER.
14. THE DOUBLE HANDHOLE SHALL BE FURNISHED WITH RECESSED, INTEGRAL, HINGED LIDS.
15. ALL DETECTOR LOOP HARNESSES SHALL BE FURNISHED WITH PLASTIC TAGS LABELED WITH RESPECTIVE PHASES AND DIRECTION AS LISTED IN THE DETECTOR LOOP CHART. MINIMUM TAG SIZE OF 1/2" BY 1". ALL DETECTOR AMPLIFIERS SHALL BE LABELED THE SAME AS THE HARNESS WITH A REMOVABLE TAG. TAGS SHALL BE MADE OF A MATERIAL THAT DOES NOT ALLOW WRITING TO FADE OVER TIME.
16. THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF UNCOVERING OR HAND DIGGING AROUND UTILITIES, AS NECESSARY, INCIDENTAL TO THE CONDUIT PAY ITEM.
17. ALL THREADS OF BOLTS USED IN TRAFFIC COMPONENT ASSEMBLIES SHALL BE COATED WITH A NON-LEAD BASED ANTI-SEIZE COMPOUND, SIMILAR TO LEAD PLATE, PRIOR TO ASSEMBLY.
18. ALL MAST ARM POLE BASES SHALL BE PROTECTED BY A STAINLESS STEEL MESH SCREENING AROUND THE BASE BOLTS TO PREVENT RODENT ENTRY. THE MAXIMUM OPENING AREA IN THE MESH SHALL BE 0.045 SQUARE INCHES. THE MESH SHALL BE SECURED TO THE BASE BY STAINLESS STEEL BANDING AS INCIDENTAL TO THE INDIVIDUAL MAST ARM ASSEMBLY PAY ITEM.
19. DOUBLED FUSED FUSE HOLDERS AND SURGE ARRESTORS ARE TO BE SUPPLIED AND INSTALLED BY THE CONTRACTOR IN THE BASE OF THE COMBINATION MAST ARM AS INCIDENTAL TO THE LIGHT FIXTURE PAY ITEM.
20. THE LENGTH OF DETECTOR LOOP CABLE FROM THE CURB TO THE JUNCTION BOX OR HANDHOLE IS INCIDENTAL TO THE DETECTOR LOOP PAY ITEM.
21. THE CONTROLLER CABINET SHALL BE PLACED SO THAT A TECHNICIAN MAY SEE THE INTERSECTION OVER THE TOP OF THE CABINET WHILE WATCHING THE COMPONENTS IN THE CABINET.
22. BACK PLATES MUST BE POLYCARBONATE WITH A DEEP BACK FLANGE.
23. THE CONTRACTOR SHALL PROVIDE 3 FEET SLACK CABLE IN EACH TRAFFIC SIGNAL STRUCTURE: MAST ARM, POST, CONTROLLER. THE SLACK, WHICH IS IN ADDITION TO THE VERTICAL LENGTH OF CABLE DEFINED IN THE SPECIFICATIONS, SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR EACH CABLE.
24. THE CONTRACTOR SHALL COORDINATE ALL WORK NEAR THE RAILROAD WITH THE RAILROAD'S WORK AT THE CROSSING.
25. THE CONTRACTOR SHALL INSTALL THE PRESCRIBED BATTERY BACKUP SYSTEM FOR THE TRAFFIC SIGNALS TO ALLOW THE TRAFFIC SIGNALS TO OPERATE NORMALLY FOR UP TO TWO HOURS IN CASE OF A POWER OUTAGE.
26. If the lighting fixtures provided by the contractor are single phase, the contractor shall insert a copper slug into the ground side of the double fuseholder. If the lighting fixtures provided by the contractor are double phase, the contractor shall fuse both sides of the double fuseholder.
27. The contractor shall work with the railroad to connect the railroad interconnect cable equipment to their equipment as the railroad specifies.
28. The traffic signal interconnect shall not be left in full time operation prior to a full operational inspection. The contractor must arrange the date for a full operational inspection. The following parties must mutually agree to be present on the date for the full operational inspection : IDOT Traffic Signal Engineer, the TP&W Railroad Field Service Technician, the traffic signal controller manufacturer representative, the electrician who completed this project, an Operations railroad interconnect representative from IDOT Springfield Central Office and/or a representative from the Illinois Commerce Commission.

    It is recommended that the contractor set this date well in advance.
29. The contractor shall test the traffic signal interconnect prior to the full operational inspection to confirm that the traffic signal components are operating correctly. The following parties must mutually agree to be present on the date for the interconnect testing : IDOT Traffic Signal Engineer, the traffic signal controller manufacturer representative, the electrician who completed this project. The interconnect testing date shall be sufficiently in advance of the full operational inspection so that any necessary repairs can be made before the operational inspection.

SUMMARY OF QUANTITIES

	CODE NO.	ITEM	UNIT	QUANTITY
	70102820	TRAFFIC CONTROL AND PROTECTION STANDARD 701501	L SUM	1
	72000100	SIGN PANEL, TYPE 1	SQ FT	46
	78000100	THERMOPLASTIC PAVEMENT MARKING, LETTERS AND SYMBOLS	SQ FT	42
	78000200	THERMOPLASTIC PAVEMENT MARKING, 4"	FOOT	34
	78000400	THERMOPLASTIC PAVEMENT MARKING, 6"	FOOT	418
	78000650	THERMOPLASTIC PAVEMENT MARKING, 24"	FOOT	82
	78300100	PAVEMENT MARKING REMOVAL	SQ FT	218
	81000600	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	32
	81000800	CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL	FOOT	16
	81012300	CONDUIT IN TRENCH, 1" DIA., PVC	FOOT	295
	81012600	CONDUIT IN TRENCH, 2" DIA., PVC	FOOT	782
	81012700	CONDUIT IN TRENCH, 2-1/2" DIA., PVC	FOOT	21
	81013000	CONDUIT IN TRENCH, 4" DIA., PVC	FOOT	8
	81018700	CONDUIT PUSHED, 3" DIA., GALVANIZED STEEL	FOOT	273
	81018800	CONDUIT PUSHED, 3-1/2" DIA., GALVANIZED STEEL	FOOT	92
•	81100600	CONDUIT ATTACHED TO STRUCTURE, 2" DIA., GALVANIZED STEEL	FOOT	37
•	81300940	JUNCTION BOX, STAINLESS STEEL ATTACHED TO STRUCTURE, 12" X 12" X 4"	EACH	1
•	81400400	CONCRETE HANDHOLE	EACH	7
•	81400600	CONCRETE DOUBLE HANDHOLE	EACH	1
	82202110	ELECTRIC CABLE IN CONDUIT, 600 V CXLP - TYPE USE) I/C NO. 10	FOOT	1386
		BARE COPPER WIRE, I/C NO. 10	FOOT	693
	82401210	ELECTRIC CABLE IN CONDUIT SIGNAL NO.14 2/C	FOOT	373
	82401240	ELECTRIC CABLE IN CONDUIT SIGNAL NO.14 5/C	FOOT	1220
	82401250	ELECTRIC CABLE IN CONDUIT SIGNAL NO.14 7/C	FOOT	1046
	82401300	ELECTRIC CABLE IN CONDUIT LEAD-IN NO. 14, 1-PAIR	FOOT	1905
	82401600	ELECTRIC CABLE IN CONDUIT NO. 16 COMMUNICATION, 3-PAIR	FOOT	118
	82401800	ELECTRIC CABLE IN CONDUIT SERVICE NO. 6 2/C	FOOT	8
	83101500	WOOD POLE, 25 FT., CLASS 5	EACH	1
	83202490	TRAFFIC SIGNAL POST, GALVANIZED STEEL 15 FT.	EACH	1
	83402880	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 30 FT.	EACH	1
	83402900	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 34 FT.	EACH	1
	83402980	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 50 FT.	EACH	2
	83800100	CONCRETE FOUNDATION, TYPE A	FOOT	3
	83800200	CONCRETE FOUNDATION, TYPE D	FOOT	35
	83800400	CONCRETE FOUNDATION, TYPE E, 30-INCH DIAMETER	FOOT	44
•		SIGNAL HEAD, POLYCARBONATE, 1-FACE, 3-SECTION, BRACKET MOUNTED, LED FACES	EACH	2
•		SIGNAL HEAD, POLYCARBONATE, 1-FACE, 3-SECTION, MAST ARM MOUNTED, LED FACES	EACH	6
•		SIGNAL HEAD, POLYCARBONATE, 1-FACE, 4-SECTION, BRACKET MOUNTED, LED FACES	EACH	1
•		SIGNAL HEAD, POLYCARBONATE, 1-FACE, 4-SECTION, MAST ARM MOUNTED, LED FACES	EACH	1
•		SIGNAL HEAD, POLYCARBONATE, 1-FACE, 5-SECTION, BRACKET MOUNTED, LED FACES	EACH	2
•		SIGNAL HEAD, POLYCARBONATE, 1-FACE, 5-SECTION, MAST ARM MOUNTED, LED FACES	EACH	2
•	84200100	TRAFFIC SIGNAL BACKPLATE	EACH	14
•	84400250	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 250-VOLT	EACH	4
•	84600100	INDUCTIVE LOOP DETECTOR	EACH	11
•	84700100	DETECTOR LOOP, TYPE I	FOOT	4206
•	84800305	ILLUMINATED SIGN (SPECIAL)	EACH	3
•	85500100	LIGHTING CONTROLLER	EACH	2
•	85700205	FULL ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
•	86700105	SERVICE INSTALLATION, TYPE A (MODIFIED)	EACH	1
•	86800100	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	958
•		INTERCONNECT TO RAILROAD CABINET	EACH	1
•		BATTERY BACKUP	EACH	1
	20048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1

ED	M.V.F.
)	W.J.B.
	W.J.B.
)	M.V.F.

EXHIBIT # 2

TRAFFIC SIGNAL NOTES & QUANTITIES
FAP ROUTE 49 (ILL. RTE. 1)
SECTION (3M)TS
IROQUOIS COUNTY